Development of a Client/Server Business Strategy

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for

Litton Computer Services

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Development of a Client/Server Business Strategy

A Study for Litton Computer Services

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I

Introduction

This report presents the results of a custom research study conducted for Litton Computer Services (LCS) by INPUT. The study addresses the growing impact of client/server (C/S) technology on LCS' traditional markets and recommends a strategy for leveraging the trend to C/S computing.

A

Objectives

LCS' specific objectives in conducting the research were to:

- Gain an understanding of how the market defines C/S offerings, how they are sold, and who the buyers are.
- Develop insight into the product/offering strategies of leading vendors who address the C/S market.
- Obtain an objective view of how LCS' current capabilities can be deployed to develop an offering for the C/S market.
- Determine if there are peripheral offerings that could yield significant business to LCS.
- Formulate a strategy and implementation approach based on the study's findings, to leverage the trend toward C/S computing into new profitable business opportunities for LCS.

B

Scope

- The study focused on opportunities related to LCS' current business offerings; including software development, processing services, and outsourcing.
- Opportunities for related businesses were also examined. However, the study did not address hardware and software products opportunities other than LCS' business potential as a channel for these offerings.
- Markets and opportunities outside the United States were excluded from the analysis.

C

Study Approach

1. Methodology

- A kick-off meeting was held to launch the project at LCS' Woodland Hills site on August 10, 1993. A list of attendees is included in Appendix A, Project Participants. The objectives of the meeting were to introduce the project objectives and scope to the LCS management team and gather information on LCS' existing offerings, technical capabilities, and marketing strategy.
- Subsequent to the meeting, additional information was gathered from LCS on the industry groups represented in LCS' existing customer set, LCS' organizational structure, and the nature of unique contracts, such as the Hilton/Budget agreement.
- A synopsis of the information was prepared and distributed to senior INPUT executives for analysis. A "think tank" session was held on September 2, 1993 to develop an overall INPUT perspective on LCS' current position vis-a-vis the market, and a recommended C/S strategy.
- Additional secondary research was conducted on the following topics:
  - Outsourcing market trends
  - C/S platform trends
  - Competitive strategies and offerings

- Based on the results of the September 2 meeting and the secondary research, preliminary recommendations were prepared and forwarded to LCS' executive project sponsor on September 9, 1993.

2. Additional Sources of Information

In addition to the research described above, information from several other INPUT sources was used in the preparation of this analysis. Sources include:

- Information from over 1,500 interviews conducted since January on downsizing and planned C/S implementations

- Data and analysis on platform directions based on a survey of 124 firms implementing, or with immediate plans to implement, C/S strategies

- Non-proprietary interview data obtained from three custom studies of C/S markets and offerings

- Forecast data from INPUT's *Outsourcing of Information Systems Program.*

D

Organization

The remainder of the report is organized as follows:

- Chapter II, *Summary of Recommendations*, presents INPUT's recommendations for an LCS strategy, and a suggested approach to implementation.

- Chapter III, *Client/Server Market Impacts*, provides an analysis of the market trends leading to INPUT's recommendations.

- Chapter IV, *Competitors' Strategies*, discusses the C/S strategies and specific offerings of a number of market leaders.

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II

Summary of Recommendations

This chapter presents INPUT's recommendations for LCS' C/S market strategy. Section A outlines the overall strategy and proposed offerings. Section B gives INPUT's views on LCS' current capabilities to implement the strategy; and Section C recommends an implementation approach. Chapter IV presents the analysis supporting the recommendations and proposed implementation steps.

A

Recommended C/S Strategy

INPUT recommends the LCS position itself as a provider of *C/S Migration Services*. Offerings to be housed under this umbrella would include the following:

- **Transitional Outsourcing** - The management of platform and/or network operations in support of the customer's internal C/S migration strategy.

- **C/S-Based Systems Integration Services** - The provision of professional services to deliver total solutions based on C/S technology including consulting, project management, and implementation. These services can be offered either in conjunction with or independent of transitional outsourcing.

- **Desktop Management Services** - The overall management of the deployment, maintenance, and connectivity among the personal computers and/or workstation in a client's organization. These services can also include performing the help desk function and the actual provision of equipment and software.

This strategy should be adopted as a new line of business rather than a replacement for, or variation on, LCS' current strategies in processing services, traditional platform systems operations, and systems integration. These lines of business should continue to constitute LCS' core service offerings as the C/S-based strategy develops.

B

Current Capabilities

To achieve successful implementation of the strategy, LCS will must redeploy some existing resources and invest in a number of areas. Based on an analysis of the information gathered about LCS' current capabilities, INPUT has developed a list of strengths and deficiencies that define the starting point for the implementation strategy.

1. Strengths

- LCS' successful capture of the Hilton/Budget agreement and the apparent enthusiasm of these organizations to seek additional development services, offer the perfect opportunity to develop C/S skills and gain credibility with a current customer that is transferable to other industries.

- The investment being considered in a C/S based health care offering provides another channel for skill development, since the underlying architecture is C/S in nature.

- LCS' established customer base offers an opportunity for a controlled rollout of any new C/S based offering.

- In a recent INPUT study on C/S hardware and software platforms, Oracle data base management systems and applications solutions were cited as the most frequently used distributed relational data base offerings for C/S environments. LCS' position as an Oracle VAR can be leveraged.

2. Deficiencies

- The number of professional resources with appropriate technical skills is extremely limited; and presently these skills are in such demand internally that focusing them on the development of a new business strategy is difficult.

- Current resources with C/S capabilities are dispersed throughout several organizational units. This makes it hard to build critical mass, and obtain any sense of focus on a new line of business.

- Although LCS may have demonstrated expertise in systems integration internally, as well as with specific outside clients, the company is not known as a leading competitor for these types of services in the market- place.

- LCS cannot point to any reference implementation that would prove to prospects that it possesses the necessary skills to undertake a significant C/S implementation. Furthermore, the proposed in-house pilot C/S project within the finance organization, using a DB2 to OS/2-DB2 model, will not be convincing to most prospects. It's too "blue"; and despite the fact it would be a "real" implementation of C/S computing, it's out of the mainstream of mission critical applications.

C

Implementation Strategy

To achieve successful implementation of the strategy will require leveraging the assets and overcoming some of the liabilities discussed above. The following approach should accomplish that objective:

- LCS should create a separate business unit to focus on the development of the C/S Migration line of business. The unit should handle the day-to-day and long-term development of the strategy, and function as a consolidation point for in-house skills that can contribute to the success of the plan.

- The Hilton/Budget relationship, along with prospects for the proposed Healthcare offering, should be primary targets for initial C/S systems integration contracts

- Each current LCS client should be researched and analyzed to determine the prospects for C/S implementation. This should be done for two reasons:
    - To determine if there are C/S opportunities surrounding the current services provided by LCS.
    - To estimate the impact on LCS' current business if the client were to move forward with a C/S strategy.
- LCS should develop a strategy for each client where LCS takes the initiative rather than responding in a reactive mode. Essentially LCS needs to test its own base of business before others attach it. It must be ahead of the trend in its customers' eyes - not lagging.
- INPUT also recommends LCS acquire a professional services/SI organization ($10 - 20 million in revenues) with a proven track record in C/S implementations to bring in-house technical skills to a critical mass level.
- Finally, LCS internal desktop services and help desk should be repackaged into a commercially viable offering. Once packaged, emphasis should be placed on selling and long-term contracts to migration services clients, to maintain a lock on the customer and an inside track to identifying additional opportunities.

D

Market Positioning

Although not explicitly stated, the underlying premise of the strategy is that LCS will become a self-sufficient provider of *C/S Migration Services*. In other words, it will acquire or develop all of the necessary skills and other resources required in-house. Recognizing that developing these capabilities takes a considerable amount of time, and becoming recognized in the market will take even longer, INPUT's management team considered alternative strategies that could bring LCS to market in a shorter time frame.

The use of declared formal alliances to supplement in-house development capabilities was discussed in-depth and rejected for the following reasons:

- It places LCS at risk of being "tagged" in the market as the partner that "does" platform operations, rather than as a competitor in C/S systems integration and solution-based services.

- It potentially exposes LCS' current customers or high probability prospects to account take-over by the alliance partner.

An alternative strategy that appears more attractive is for LCS to position itself to provide support services to professional services and systems integration firms that do not have large computer center operational capabilities - not as a partner. Relationships with these firms could be struck on a deal-by-deal basis. Since a lack of formal alliances eliminates any issues regarding loyalty to the alliance partner, LCS would be free to approach all major professional services and systems integration firms with the support offering. Thus;

- Obtaining broader exposure to a larger set of potential revenue opportunities than would be likely through any single alliance,

- Gaining exposure to a broader variety of firms' approaches to the C/S market,

- And, building a future prospect list that can be leveraged as LCS' internal C/S capabilities evolve.

Overall, INPUT recommends LCS position itself to be highly opportunistic in its approach:

- Leverage existing client base for C/S opportunities as it builds the required skill set.

- Gain exposure (and revenue) through the provision of support services to future potential competitors.

- Place initial focus on technical capabilities that can be applied on a cross-industry basis.

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III

Client/Server Market Impacts

There is universal agreement among INPUT's executive group that approaching C/S directly is not only desirable, but a condition of long-term survival for traditional systems operations companies. LCS' strategy must not only deal with the fundamental changes C/S computing will have on the mix and nature of outsourcing services - it must also address the evolution to new and frequently heterogeneous platform environments brought on by C/S migration.

This chapter discusses the changes that will take place in the outsourcing business as a result of C/S computing, and gives INPUT's analysis of the dominant platform directions outsourcers will need to deal with over the next few years.

A

The Impact of C/S on Outsourcing Markets

1. Overall Trends in Platform Operations Opportunities

As the move to C/S continues, companies will often outsource their data center legacy operations and develop their distributed, C/S, systems. Thus, the number of opportunities in the short term may increase dramatically as the migration occurs. The nature of these opportunities will be different, however.

- In traditional outsourcing contracts there was normally a year-to-year increase in revenue to the vendor, due to the addition of new applications, increased volumes, etc.

- The vast majority of opportunities over the next few years will come in the form of *transitional* outsourcing contracts. Under these types of contracts the revenue equation is reversed. Vendors can anticipate year-to-year decreases in revenue as applications and functions are transferred to downsized C/S platforms.

Furthermore, customers are going to expect help in the transition process. If a vendor does not have a C/S transition support capability, its probability of winning the transitional contract will be decreased, except at a reduced and unattractive price. In other words, mainframe outsourcing will be a commodity business.

Extrapolating these trends leads INPUT to the conclusion that over the long term the growth rate for the number and size of traditional mainframe-based outsourcing agreements will decline significantly. Although no one currently anticipates a decline in the absolute number of available opportunities in the near future.

2. Supporting Evidence

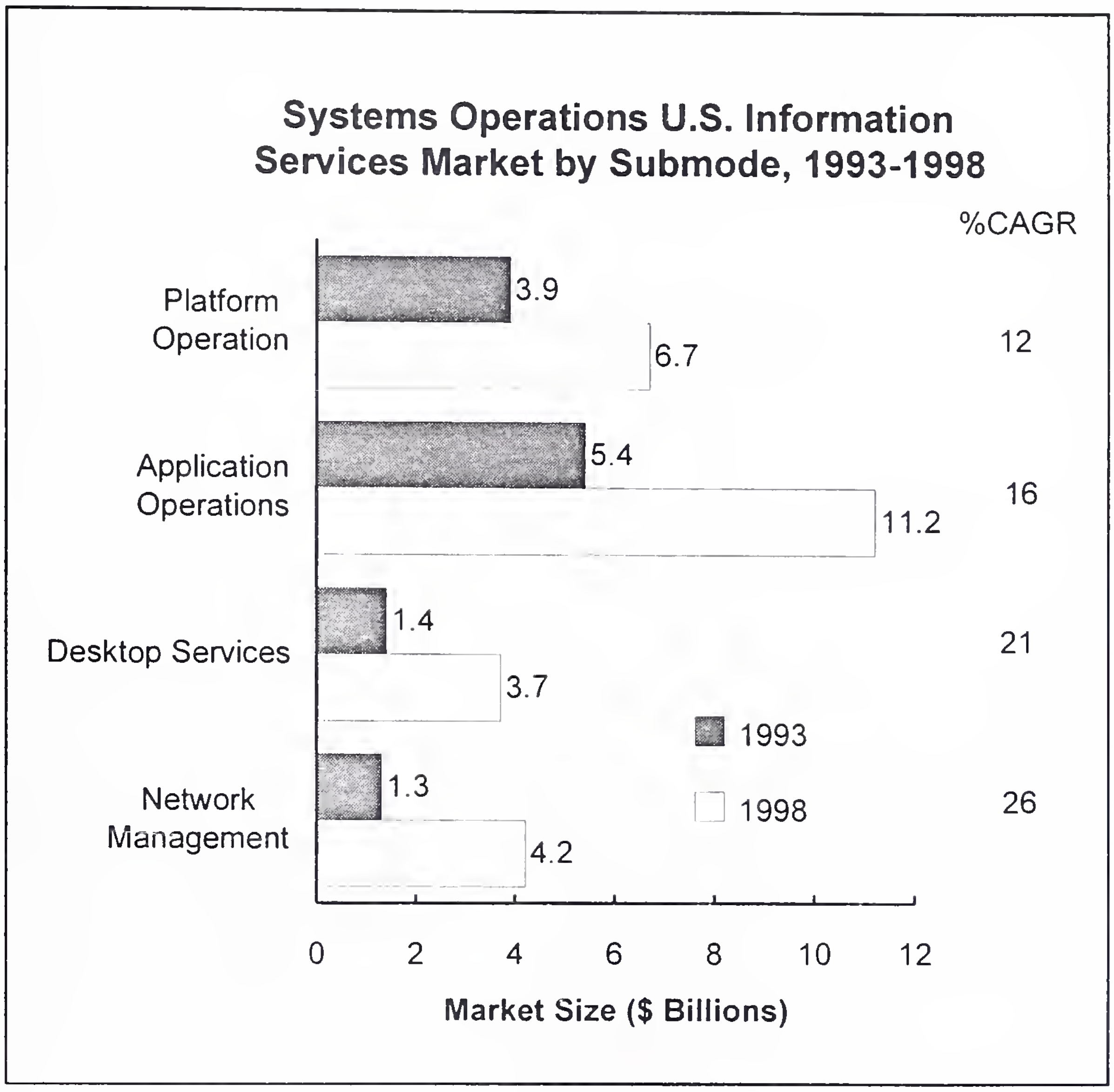
Evidence supporting these conclusions about the restructuring of the platform operations market comes from several sources.

- INPUT's 1993 - 1998 market forecast
- An analysis of applications trends

a. 1993 - 1998 Market Forecast for Systems Operations

Exhibit III-1 shows the systems operations market forecast by delivery mode for the period 1993 - 1998.

EXHIBIT III-1



While still at a healthy 12%, the compound annual growth rate (CAGR) for platform operations is the lowest of any of the submodes. Furthermore, comparing this rate to the 16% forecasted in 1991, and the 13% in 1992, clearly indicates a downward trend in the growth rate for traditional platform operations which on the basis of INPUT's analysis is related in large part to the shift to shorter term and/or transitional outsourcing agreements.

Furthermore, the 12% reflects the CAGR for market dollars. This is not necessarily an indication of the growth rate for the number or size of contracts entering the market over the forecast period. Since SO agreements spread revenues throughout the life of the contract, the residuals from prior years' agreements tend to dampen the effect of changes in the number of opportunities or their size in the current forecast period. In other words, the 12% CAGR is probably overly optimistic in terms of the value of new contracts available throughout the forecast period.

Two other observations about the forecast that support INPUT's contention that the migration to C/S is having a significant impact on outsourcing markets follow:

- The compound annual growth rates for network management and desktop services, both key offerings to support C/S distributed processing architecture, exceed 20% for the forecast period.
- Applications operations will represent 43% of the total market of $25.8 billion by 1998, reflecting in part a growing emphasis on the provision of professional services for the maintenance of legacy systems as companies migrate to C/S platform strategies.

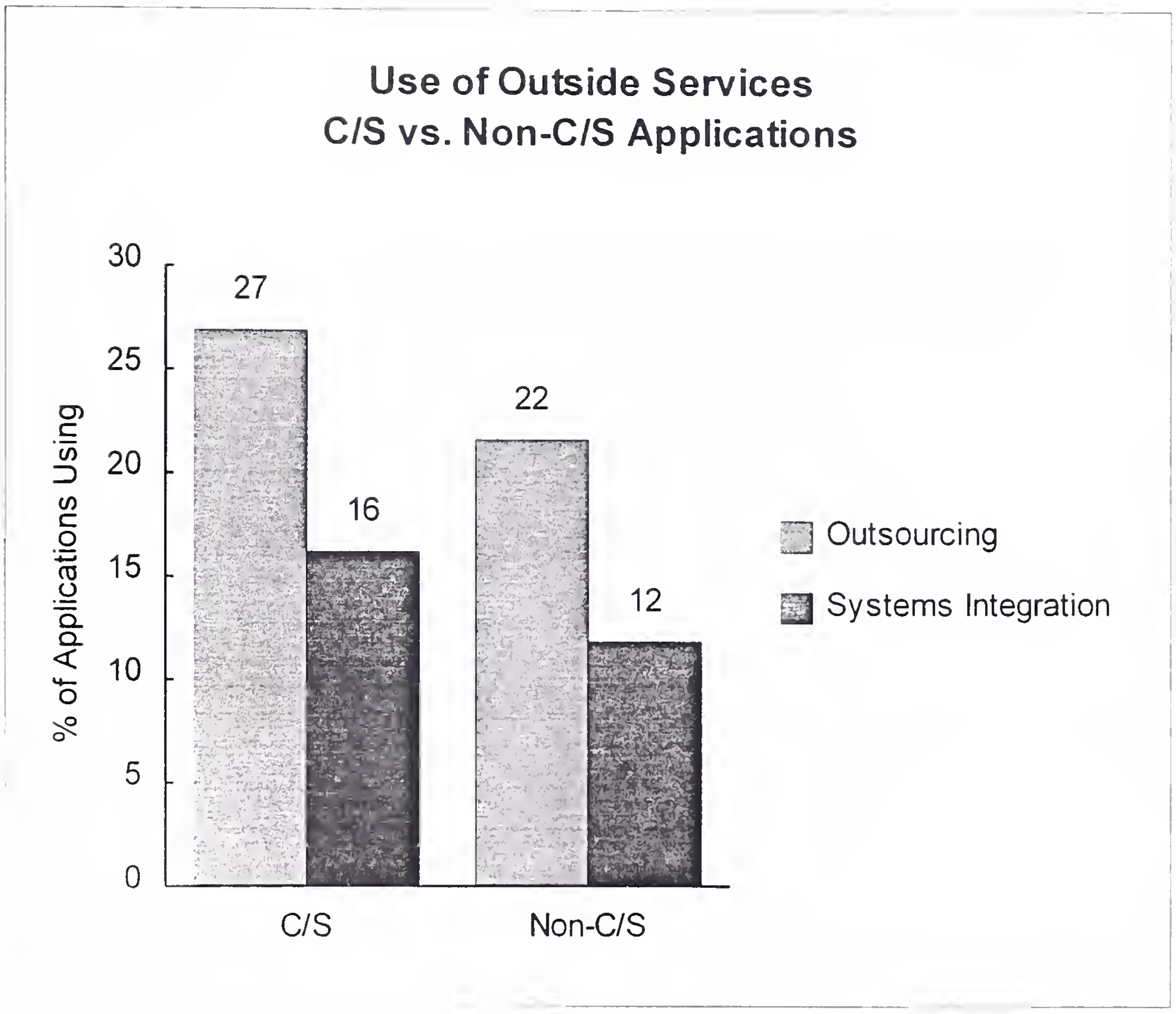
b. Applications Trends

INPUT's ongoing analysis of applications trends also provides evidence that the number of applications targeted for C/S environments is significant. Since January of 1993, INPUT has conducted 1,600 interviews with organizations regarding their highest priority investments in applications over the next two years. Interviewees were asked to discuss their key applications development or enhancement plans. For each application, information was gathered regarding the platforms to be utilized, whether the application would be implemented using C/S architecture, applications software products, systems integration services and/or outsourcing services. Data was gathered on a total of 2,100 applications. Analysis of this data indicates:

- Of the total 2,100 applications, 42% of those planned for the period 1993-1995 will be targeted for C/S architecture. This number would be even higher if the sample were limited to new applications development projects. Although it isn't possible to divide the sample precisely between new development efforts and major enhancements of existing systems, an estimate based on respondents' descriptions of the projects indicates that of the 2,100, approximately 30% are totally new development efforts. For that group INPUT estimates the use of C/S to be in the range of 70%.
- Of the 880 applications targeted for C/S, approximately 35% will utilize a mainframe as part of the platform environment.
- Even though C/S penetration rates for applications vary somewhat between industry sectors, good opportunities exist in virtually all major industry groups.

Finally, as shown in Exhibit III-2, the applications targeted for C/S environments will make slightly heavier use of use of systems integration and outsourcing than those planned for traditional computing architectures.

EXHIBIT III-2



The information presented here makes a strong case that the migration to C/S computing is already having a significant impact on systems operations markets in terms of the types of services being demanded, and their forecasted growth. Furthermore, as more and more applications move to a C/S architecture, outsourcers will need to redesign their offerings to deal with an installed base of large numbers of distributed platforms.

B

Platform and Operating Systems Directions

Successful implementation of the proposed C/S market strategy will be heavily dependent on LCS' ability to assemble a professional staff skilled in migrating all or parts of a customer's applications portfolio to new and frequently downsized computing architectures. Furthermore, in order to take advantage of the rapidly growing market for desktop services, LCS will need to tune its existing in-house offering to insure efficient support of:

- A broader spectrum of platforms and network architectures
- New geographic areas

Clearly it isn't feasible or advisable to attempt to build a delivery capability that can deal with the virtually infinite number of potential C/S platforms architectures that can be seen in the market today. The question is what combinations of hardware and software dominate the current market opportunities, and how, if at all, are these likely to change in the foreseeable future. With the answers to those questions in hand, LCS should be able to build internal skills inventories and service offerings to satisfy a significant portion of the potential market requirements without the kind of investment that would be required to be all things to all people.

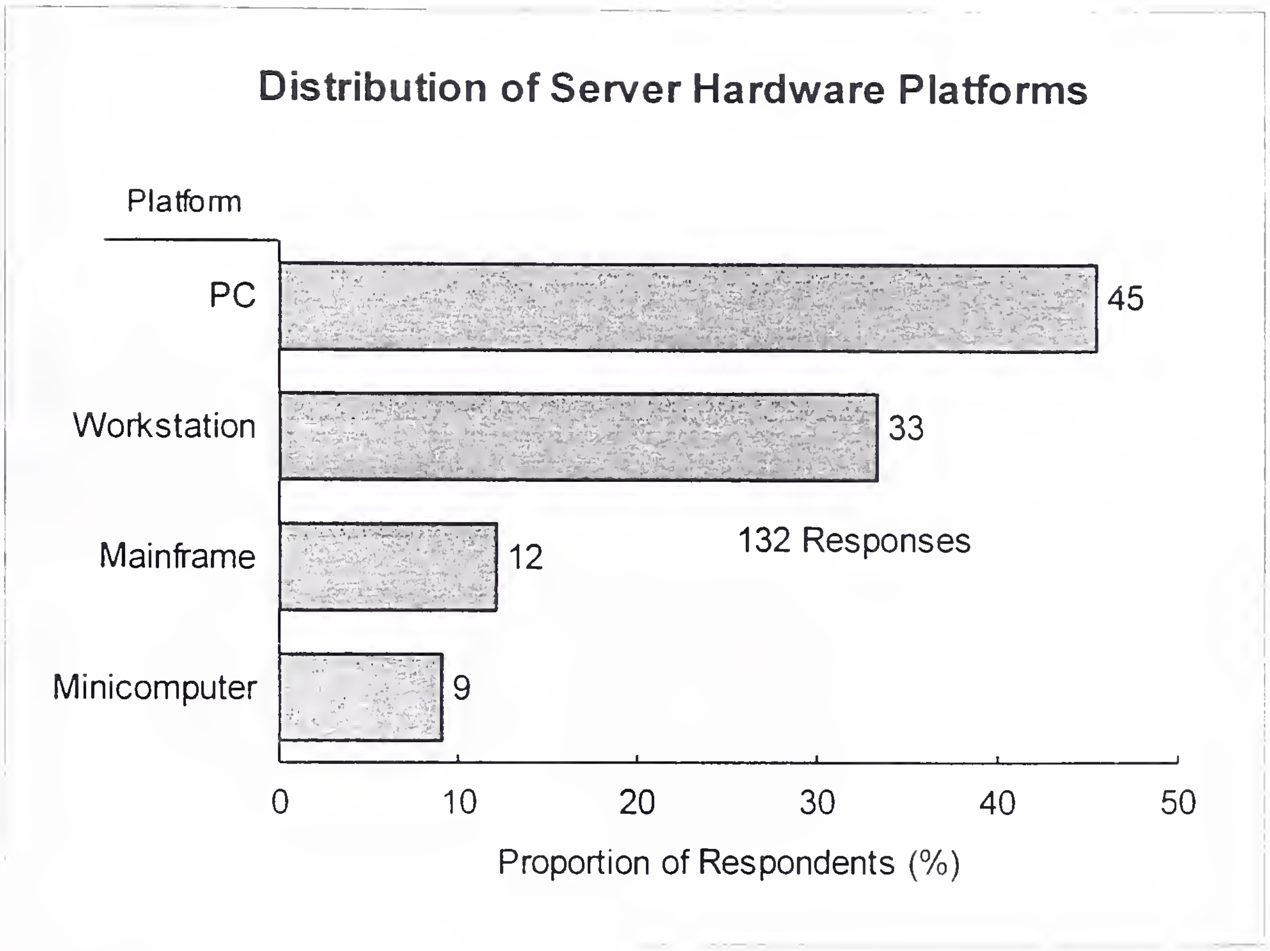
A recent INPUT study, *The Client Server Explosion - How Users Choose Platforms*, provides some answers to those questions. Study results are based on 124 in-depth interviews with companies selected from INPUT's applications data base that were currently implementing or planning one or more major C/S projects. Information was gathered regarding the hardware, operating systems, data base management software, and network management systems that would be used in these projects for both servers and clients. Reasons for the selections and data regarding future plans was also gathered and analyzed.

Some highlights of the study are presented here to provide a framework for the key technology skills LCS should target in building its in-house capability.

1. Server Environments

Exhibit III-3 shows the distribution of targeted server hardware by class.

EXHIBIT III-3



- PCs and workstations clearly dominate the environment, together representing 78% of the targeted server platforms.

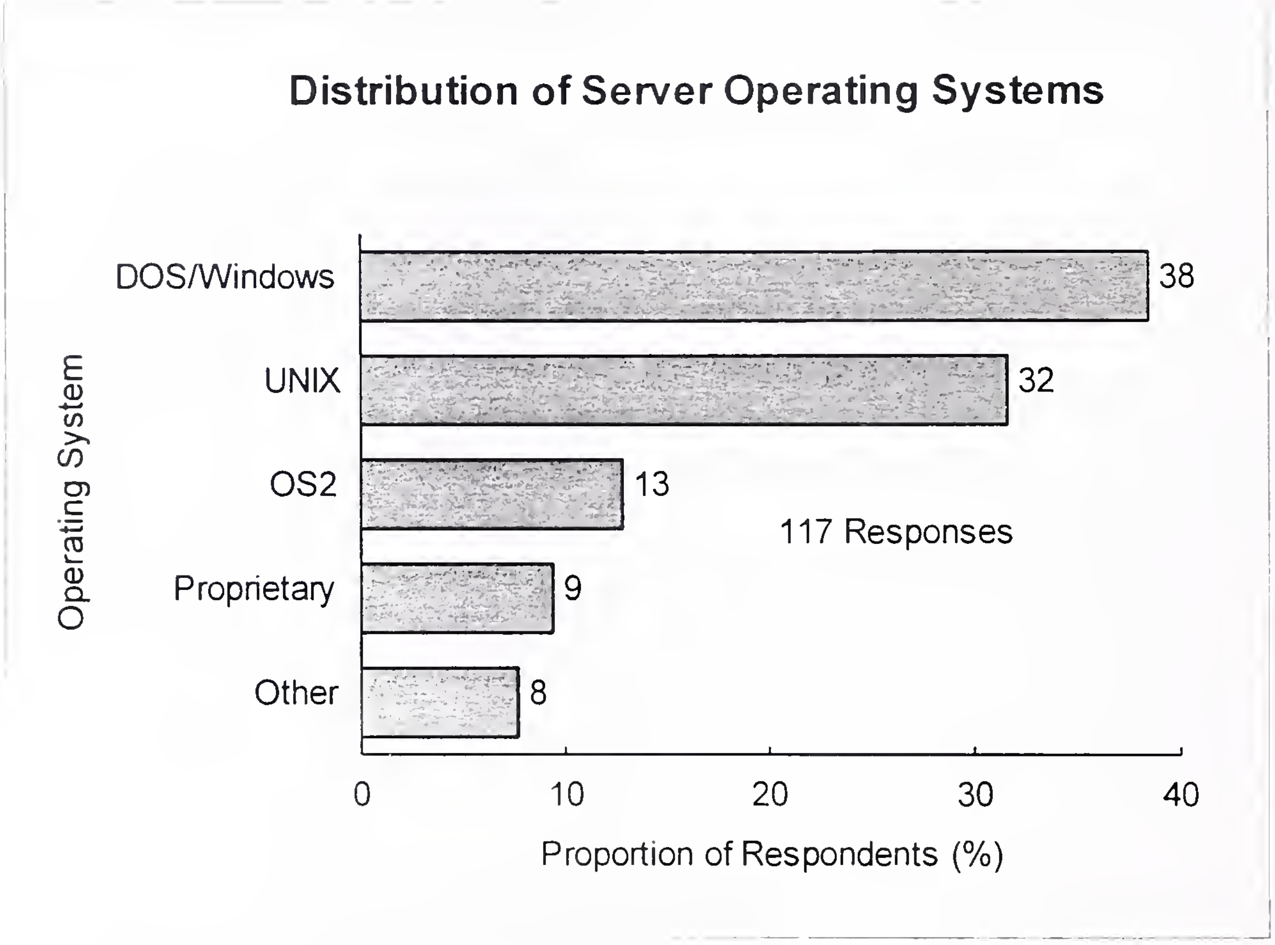
- Approximately 50% of the respondents indicated the dominant factor motivating the selection of the server hardware platform was it was either "in-place" or dictated by company standards. The second most dominant reason, price performance, was cited by 25%.

- Respondents generally saw little reason to make any significant changes in their server platform selections in the near future. Most indicated (with the exception of mainframe respondents) that the primary change would be the addition of capacity and or upgrades, notably to Pentium based processors.

To some extent the poor showing of mainframes is surprising, given the huge installed base and IBM's best efforts to promote them as servers. No one believes they are simply going to go away. It's more likely that, at least for the next few years, mainframes will continue to function as servers for applications where huge processing power is required, or operate as production platforms for legacy systems, a potential opportunity for LCS.

Exhibit III-4 gives the distribution of targeted operating systems for this server group.

EXHIBIT III-4



- On the operating system side of the equation, DOS and UNIX make up 70% of the target for server platforms. This is not surprising given the distribution of server hardware. However, unlike the hardware selection criteria cited by respondents, server operating systems are being selected for their functional capabilities and compatibility with existing environments in about 45% of the cases. Company standards or the fact an operating system was already in place accounted for only 17% of the responses.

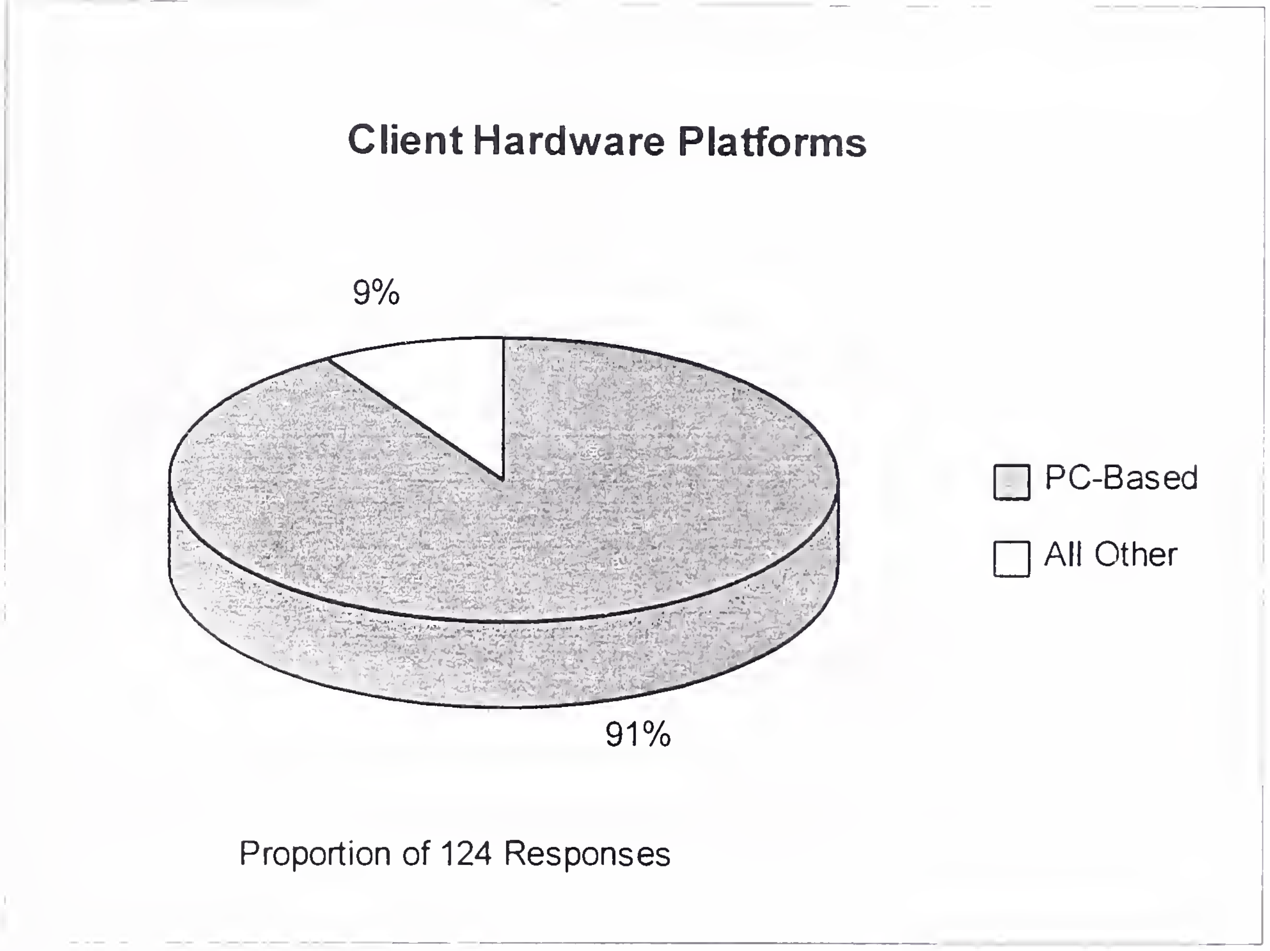
- The question is whether this dominance will continue. An examination of the data regarding future plans for both server and client operating systems indicates NT will be evaluated by at least 35% of those considering a change in the next two to three years. Another 15% will be examining UNIX. The most likely scenario is that, unless it simply doesn't work, NT will become a dominant factor, replacing many of the DOS based platforms, and eating to some degree into the

UNIX base. Nevertheless, UNIX will have its own set of converts, making it a key operating system in the C/S scenario.

2. Client Environments

The picture for client hardware and operating system software is considerably more straightforward. As shown in Exhibit III-5, PCs will dominate the hardware component.

EXHIBIT III-5



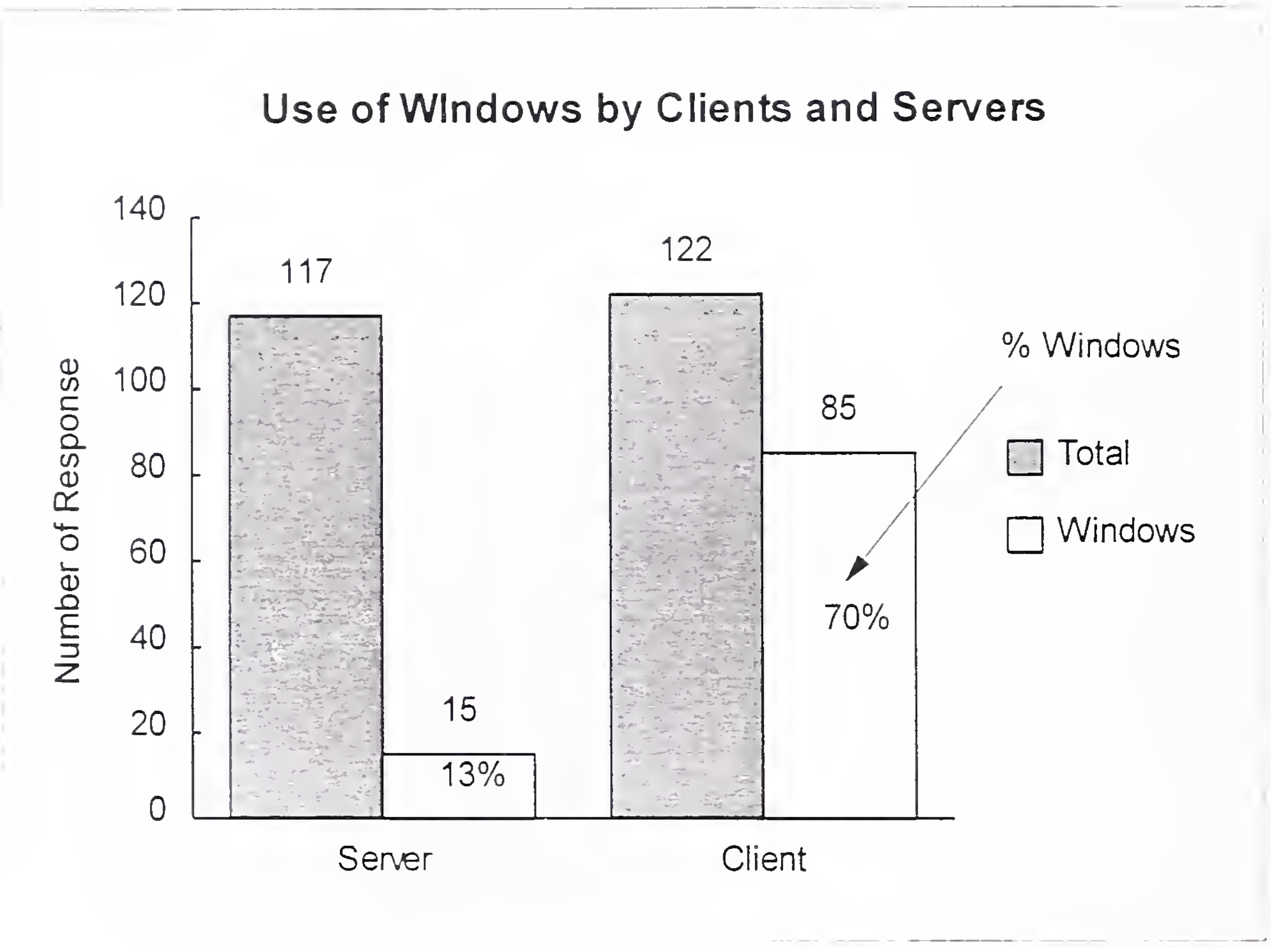
- DOS will dominate the operating system software, as the targeted environment for 65% of the sample. OS2 and UNIX come in number two and three respectively, at 14% and 6%.

- As was the case in server hardware, the fact that the operating system was in place or was a company standard had a significant impact on selection. One of these two reasons was cited by 45% of the sample. However, it should also be emphasized that the availability of software was the third highest ranked of the selection criteria.

This last point is particularly significant, in that it indicates an increasing desire on the part of organizations to have access to a rich selection of-the-shelf applications and applications enabling software, particularly in the client environment.

Windows meets that objective; and despite the complaints of purists about its integrity, clearly offers the richest set of available software. As shown in Exhibit III-6, Windows is clearly the GUI of choice.

EXHIBIT III-6



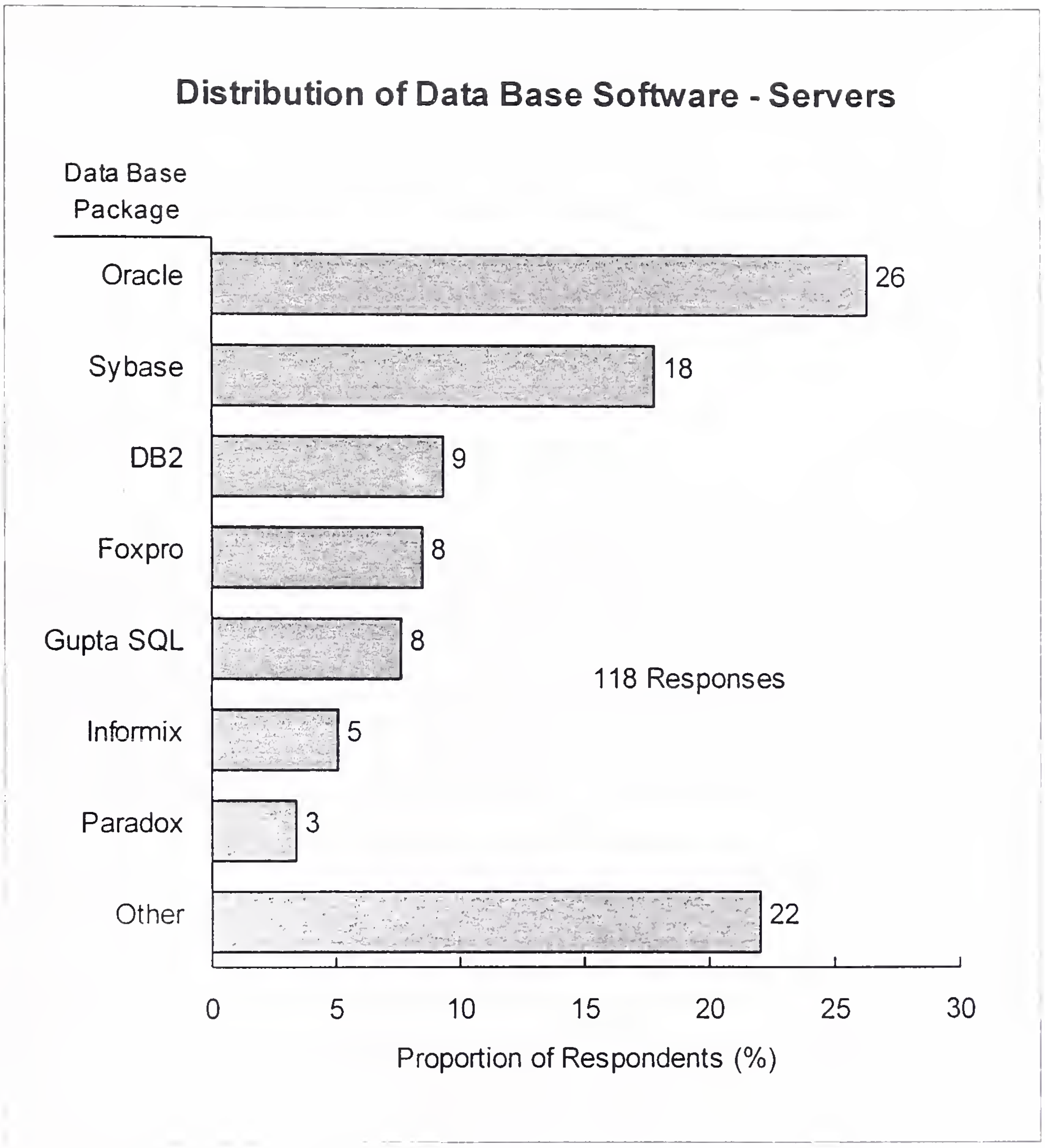
In fact, of the 37 respondents who are currently not using Windows, 15 are evaluating the alternative, and the remainder have committed to other windowing interfaces such as OS/2. (Sometimes running Windows.)

3. Data Base & Network Environments

a. Data Base Environments

The situation in C/S data base environments is not nearly so clear cut. As shown in Exhibit III-7, a great variety of data base management systems are currently targeted for servers.

EXHIBIT III-7

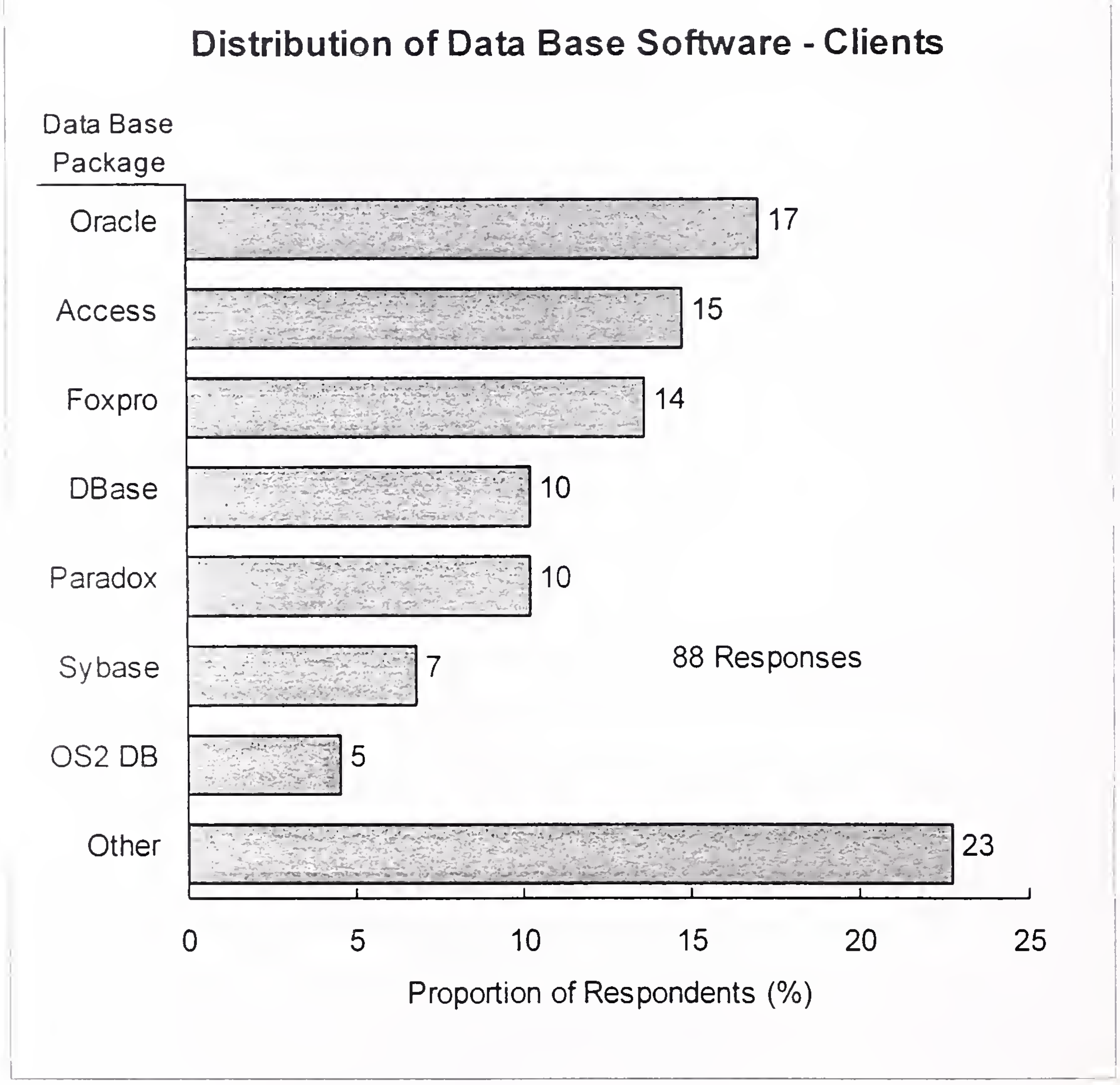


- *Servers* - For server platforms, Oracle, the leader, and Sybase, number two, are the most dominant targets, representing 44% of the sample. Beyond these two leaders, DB2 ranks third, but obviously only in situations where the mainframe environment is the server hardware platform. The remainder of the targeted DBMSs cover just about every available product with Foxpro, Gupta and Informix making respectable showings.

> In terms of future plans, the most frequently cited potential migration path was to either Oracle or Sybase. As these evaluations proceed, the availability of applications software is becoming an important evaluation criteria.

Exhibit III-8 shows the distribution of data base operating systems for clients.

EXHIBIT III-8



- *Clients* - Oracle is also the leading DB platform for clients, but not nearly as dominant as in the server environment, representing only 17% of the sample. Sybase falls off to sixth ranking because of its long delayed delivery of a DOS based engine. And surprisingly, ACCESS, Microsoft's latest offering ranks number two, with a 15% target share of the sample.

> Nevertheless, the installed base is very fragmented. This is due primarily to the fact that a great many legacy data bases already exist in the user PC world that is gradually being migrated to production systems via C/S.

In the long run, "industrial strength" C/S production applications will require high integrity distributed relationship data base management software. Assuming this is the case, the migration over time is likely to be to the Oracle and Sybase class of architecture. No doubt, complementary data base software for personal and work-group applications will remain on client systems; but probably not for heavy-duty production systems.

b. Network Environments

To some degree, the war is already won with regard to network management systems. Results of INPUT's surveys indicate that almost 75% of the targeted C/S platform environments will incorporate Netware. Furthermore, based on respondents future plans, Netware will be the most evaluated alternative for those firms who are considering a change.

4. Key Skill Requirements

Clearly, C/S computing can be implemented on a broad spectrum of platforms, ranging from mainframes to various configurations of PC/workstations. However, despite the fondest hopes of IBM and other providers of mainframe hardware, INPUT's research doesn't support the concept that the mainframe will play a dominant role as a server in the long run. Nevertheless, LCS' skills with mainframes will prove invaluable in qualifying it as a provider of migration services, since mainframes will undoubtedly be the source of the vast majority applications targeted for downsizing.

To qualify on the other side of the equation - supporting prospects and customers in the re-implementation of part or all of their applications portfolios to new platforms, LCS needs to develop and/or acquire technology skills that will have the broadest applicability in the market.

Based on the analysis presented here, INPUT recommends that LCS focus on:

- DOS, UNIX and NT expertise on Intel-based processors
- Oracle and Sybase as critical data base management skill sets
- Windows based applications development tools; including C++ and Visual Basic
- Netware
- The bridging technologies between IBM mainframe networks and applications to the technologies discussed above

IV

Competitors' Strategies

Most of LCS' major competitors are developing or implementing strategies to deal with the shift in the computing paradigm. Virtually all of the existing or proposed offerings focus on systems integration based services. For outsourcers, these are generally packaged in conjunction with the transitional outsourcing of mainframe facilities and the follow-on management of distributed facilities, help desk operations, etc.

Traditional professional services firms and systems integrators, such as Andersen Consulting, focus on the systems integration aspects of the market opportunity, but are willing to take on transitional outsourcing and longer-term support agreements to meet a customer's requirements for a total solution to the C/S migration problem.

This chapter looks at some competitor's strategies. In-depth discussions of EDS and Andersen are presented as representative of traditional outsourcing and SI/professional services firms respectively. A synopsis of other competitors' strategies is also presented.

A

Electronic Data Systems (EDS)

EDS states that its corporate strategic direction encompasses, architectures, networks, platforms and methodologies and is based on the open systems and client/server model of computing. Its definition of C/S computing is built around the concept that three basic functions, presentation, application, and data management can be split between client and server in virtually any combination to constitute C/S computing. This principle, coupled with the underlying assumption that the computing activity must be network based, constitutes EDS' definition of C/S computing.

The company believes C/S computing allows it to support customers that want to make the transition from transaction-based processing to business event and knowledge-based systems solutions. To that end in late 1991, EDS introduced the EDS RightStep program, an EDS developed process to support customers and prospects in the total migration process from goal definition to implementation of C/S downsized environments. Typically, EDS acts as the prime contractor in these efforts, but will form alliance partnerships in individual cases where platform specifications require the assistance of a major hardware vendor.

EDS has taken an aggressive approach to "regrouping" its personal computer and network management capabilities to support a burgeoning business in C/S related projects and contracts.

- EDS has an extensive desktop services organization that provides cradle-to-grave support for distributed environments.
- The company has invested substantially in developing processes and technologies such as remote local network management and applications administration capabilities. In essence, it is taking the same principles that made it an efficient provider in the mainframe world and reworking them to meet the new computing paradigm.

Although EDS will not comment on the specific revenues attributable to C/S related activities, it categorically states that C/S is a part of nearly every industry and delivery mode segment in which the company does business, and a substantial portion of most of its current and planned contracts.

Recent C/S engagements include:

- A project for Marine Spill Response Corporation to develop a system that can change quickly from a steady-state operational mode to a spill response mode requiring greatly elevated information processing levels to meet oil and chemical spill containment programs.
- Migration of the previously outsourced Idaho Medicaid system from an EDS Information Processing Center to a Sun 630 UNIX server. Demonstration of this capability affords EDS a potential opportunity to offer similar services in smaller states, where the company could not previously provide cost-effective solutions.

- Automation of the 1992 Olympics, utilizing two IBM ES/9000 mainframes and 3,800 PS/2s to form 50 autonomous token ring LANs. The EDS network provided sporting results, drove scoreboard displays, and provided press information in an average of three seconds after they were entered to over 2,200 locations in Barcelona, and to over 3.5 billion television viewers throughout the world.

B

Andersen Consulting

In calendar 1992, Andersen Consulting's revenues from C/S related contracts and engagements was $1,080 million, approximately 40% of their worldwide total of over $2.7 billion.

Andersen's overall approach to C/S is to integrate the architectural concept into its existing lines of business includiing: systems integration, change management services, strategic services, business process management, and FOUNDATION, Andersen's CASE tool offering. Andersen Consulting's client/server migration strategies focus on technology, personnel, and process factors. These factors are brought together in an overall target architecture through a process Andersen calls Selective Engineering.

Selective Engineering consists of:

- Reuse, which analyzes existing application and presentation elements and maps their usable components to defined client/server goals.

- Modification, which considers existing applications and which, through modification of application code, can be migrated to the new C/S environment.

- Replacement, whereby new applications are developed, either replacing or enhancing existing applications in terms of performance and functionality for the new C/S environment.

Another key component of Andersen's C/S strategy is its Business Integration Partnership (BIP) Program. Through the BIP Program, the company has established business alliance with third-party C/S hardware, software, and specialized service providers. Some of these include NCR, Digital, IBM Informix, Microsoft, Novell, HP, Sun Microsystems, and Sybase.

Andersen has invested heavily in adapting its methodology and CASE software to deal with C/S architecture. The result is FOUNDATION for Cooperative Processing (FCP). The latest version of FCP was announced in May 1993. It is built upon a fully relational base management system that is LAN-based and allows developers to store design objects in a repository and reuse them for creating client/server applications. FCP currently supports OS/2, Windows 3.1, HP-UX, ULTRIX, VAX/VMS, CICS, Netbios, SPX/IX, TCP/IP, and LU6.2.

Recent C/S engagements include:

- The design and implementation of a major customer service system for Sprint. The $60 million dollar project required rewriting, integrating, and migrating over ten data bases to a C/S based system.
- The re-engineering of Barclay Bank's customer information files to support new competitive strategies for customer service and personal financial products. The result was a C/S-based system with a single ES 9000 mainframe server supporting over 10,000 LAN-based workstations. The system has allowed the bank to develop more products and services targeted at selected groupings of customers.
- The development of a customized C/S-based work management system for BC Gas (British Columbia, Canada). Through the system, users can track various aspects of customer accounts, including initiation, planning, scheduling, dispatch, field reporting, and closeout. As a result, BC Gas employees now have faster, more complete access to work information, and can provide a faster response to customers.

C

Other Competitors

1. IBM/ISSC

IBM's outsourcing arm, ISSC, has captured few C/S related projects; and it's not clear that the organization has any specific strategy with regard to C/S driven markets. However, ISSC does have access to the kinds of professional services required to implement C/S migration services. IBM recently formed a division to house its expertise in C/S technologies. In situations where C/S capabilities are key to a successful contract, ISSC teams with this organization to provide the full spectrum of skills required to win and implement the contract.

2. SHL Systemhouse

SHL recently announced a major thrust into C/S related markets. It sees U.S. C/S markets as a key opportunity to double its business here. Over the past year, SHL acquired eight small integrators in the U.S. with C/S expertise. These companies range in size from $3 to $30 million. Obviously, integrating this diverse group of companies is likely to be a difficult task. However, SHL has experience in this process, because it is basically a buy rather than build organization.

Although SHL has made no declarations regarding its positioning on the outsourcing parts of the business, it's well-known that John Oltman has made forays into the SO business both while at Andersen, and in his present position as chairman of SHL.

3. Computer Sciences Corporation (CSC)

CSC appears to be attacking the market for C/S related products and services directly through the provision of migration services. Key assets include Index and CSC Consulting. Through both of these professional services organizations, CSC can provide high-end planning and requirements definitions as well as project management capabilities. In-house skills are used to deliver actual implementations.

4. Digital Equipment Corporation

Digital's computer downsizing products and services focus on infrastructure, applications, software products, and migration services. It provides consulting services, application re-engineering and migration services. Digital performs outsourcing services across nearly every dominant hardware and software architecture, making it one of the few hardware vendors that truly have multi-vendor capabilities in-house.

Digital's newest hardware offerings will center around the Alpha AXP platform. Designed to support both UNIX and NT operating systems, Alpha provides a platform path that lends credibility to its open systems C/S strategy.

Recent C/S related engagements include:

- The integration of the manufacturing and engineering on a UNIX-based C/S network to reduce time to market for its products. Pitney Bowes also uses Digital's Athena Services to manage the hardware and software environment on an on-going basis.

- Implementation of a set of C/S applications in support of Libbey-Owens-Ford Company, a key player in the auto glass replacement business. The system supports a continent-wide service network that will provide supplies to local auto glass replacement shops throughout the United States and Canada.

Digital is probably one of the most under-recognized participants in both the SI and outsourcing C/S markets, and can be expected to pursue some creative and aggressive strategies with regard to C/S.

A

Project Participants

Litton Computer Services:

- Peter Cremidas - VP of Software Development
- Mark James - Manager, Computing Technology
- Martin Lubran - Manager, Technology Development
- Tom Schoen - VP of IP Business Development
- Larry Shoenberger - Principal Engineer
- Ray Wolfe - VP SD Business Development & Marketing
- Michael Yang - VP of Finance

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- Peter Cunningham - President
- Bob Goodwin - Director, Market Analysis Program
- Tom O'Flaherty - Vice President, Custom Research
- J. P. Richard - Director, Outsourcing of Information Systems Program
- Denny Wayson - Consulting Associate

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- **Software and Services Vendors**
- **U.S. Federal Government**
  - Procurement Plans (PAR)
  - Forecasts
  - Awards (FAIT)
- **Commercial Application LEADS**

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- **Market strategies**
- **Product/service opportunities**
- **Customer satisfaction levels**
- **Competitive position**
- **Acquisition targets**

For Buyers—evaluate:

- **Specific vendors**
- **Outsourcing options**
- **Market opportunities**
- **Systems plans**
- **Peer position**

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